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Urban Residents Perceptions of Car-Free City. Case Study: Putrajaya City, Malaysia

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Abstract: Several cities have been adapting the environment of reducing the use of private vehicles and shift to another environmental friendly transportation. Reducing car in city centre able to reduce pollution, congestion, and temperatures in urban areas. Furthermore, the reduction in the number of cars influenced the reduction of parking places in the city centre and provides opportunities to increase green space and green networks in urban areas. This research is focused on resident’s perceptions of the car-free city. A survey has been conducted to perceived data on the Putrajaya residents’ travel behaviour in conducting their daily trip to observe their car dependency level. To ensure the car-free city concept will be successfully implemented in Putrajaya, sustainable transportation facilities provided also has been assessed in the study area. The findings reveal that there was a high car dependency ratio which is the ratio is 1:1.5 which means a person owns 1.5 cars. This research discovered that the level of car dependency among residents is high because the accessibility by car is easy among other modes of transport and people prefer to use a car because it is safer and reliable than public transport in Putrajaya.

Keywords: car-free city, perception, satisfaction, sustainable transport

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INTRODUCTION

In many developing countries the level of car dependency still remains high. These conditions provide slightly difficult to implement car-free city because of the mind-set of people itself in the country. It is not an easy task to reduce the level of car dependency because of several factors in such areas. According to Wright (2005), the idea of Car Free Development is gaining attention around the globe. Designing streets for people, not just cars, is considered to be a key issue in efforts aimed at reducing car dependency and promoting low carbon mobility. Moreover, this car-free city concept helps to reconcile car traffic movement with the needs of pedestrians and the desire for attractive public spaces. These concepts significantly improve conditions for non-motorised transport where completely blocking access for vehicles is impossible or undesirable.

CASE STUDY AND METHODOLOGY

For the questionnaire survey, a total of 121 respondents were selected randomly from among the residents of Putrajaya. The selection of the sample was calculated based on the total population, which amounted to 72,413 with 92% degree of confidence and 8% of the margin of error. Distribution of the questionnaire was made from the house to the house and also approaching the respondent at the recreation centres and shopping centres. Respondents were provided with a survey form, with several sub-item tests, to gauge their level of car usage. Several variables were derived from the respondents to identify their extent of car dependency i.e. the number of cars owned, the emotion and perception of owning and driving a car, the level of readiness to reduce car usage and to walk or cycle and the evaluation of walking and cycling facilities.

ANALYSIS AND DISCUSSION

Analysis of respondents’ backgrounds implicates of respondent’s information such as age, gender, ethnic, origin and occupation. The total of respondents for this study are 121 respondents, which are the Putrajaya’s residents. 51.2% of respondents are female, the highest number of the respondent is Malay which is because according to Putrajaya Structure Plan, the ethnicity in Putrajaya was 96% were Bumiputera. The function of Putrajaya as the administrative centre in Malaysia that consists of the highest number of Malay workers in government structure.
The number of respondents that work in government structure is also the highest in percentage than other professions which 59.5% and followed by self-employed at second highest which is 15.7%. The workplace of respondents mostly is at Putrajaya, only 33% of respondents do not work in Core Island of Putrajaya.

<table>
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<th>Number of cars per household</th>
<th>Frequency</th>
<th>Percent (%)</th>
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<tr>
<td>One</td>
<td>5</td>
<td>4.1</td>
</tr>
<tr>
<td>Two</td>
<td>36</td>
<td>29.8</td>
</tr>
<tr>
<td>Three</td>
<td>58</td>
<td>47.9</td>
</tr>
<tr>
<td>More than three</td>
<td>22</td>
<td>18.2</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 2: Respondent’s car ownership**

**Car Dependency Ratio**

As per the calculations derived from the Littman’s formula, Putrajaya has a high car dependency, compared to Malaysia’s average ratio. The findings reveal that there was a high car dependency ratio which is 1:1.5 which means a person owns 1.5 cars.

![Car Dependency Ratio](image)

**User Satisfaction on Facilities**

There is a list of facilities that have been listed in the questionnaires for the respondents to evaluate. Most respondents agree that in terms of cleanliness, Putrajaya set the highest par in providing the facilities to people. Besides that, most respondents are satisfied with the provision of bicycle lanes and pedestrian walkway in Putrajaya. Despite all of the positive feedbacks, most respondents answered that the frequency and services of public transport in Putrajaya need a lot of improvement. Most respondents stated that the frequency of the bus is not according to the schedules that have been provided at the bus station. That is the main reason why the mean for the frequency of transit bus is the lowest from all of the factors.

![User Satisfaction on Facilities](image)
CONCLUSION

This research indicates that the majority of people in Putrajaya are not ready to reduce their car usage and to consider public transport and cycling/walking as alternatives to using a car. The reasons provided with for “refusal” to reduce car usage were more associated with their attitudes and perceptions like- they did not like to walk or cycle in hot weather, they had safety concerns and unsatisfactory conditions of public transport infrastructure facilities. According to them, driving a car was more convenient than walking and cycling, which was a reflection of their habits. This study eventually reveals that attitudes and lifestyle of people in these cities are important determinants of travel behaviour and high level of car dependency is the key factor why they refused to shift to more sustainable modes of travel. According to Stern, attitudinal factors (such as values, personal norms and attitudes), habits, personal resources, and contextual factors are important for environmentally significant behaviours. Thus, it is not unanticipated that car habits, attitudinal factors such as moral motivation analysed in this study, explicated only a small amount of willingness in reducing car use. In order to reduce car dependency, personal resources, the time and knowledge to transform travel behaviour, as well as contextual factors, such as the availability of alternate travel modes, supporting social norms and policy strategies to influence the sustainable transformation, may be critical.

REFERENCES

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